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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/661,034	09/13/2000	TADASHI HANABUSA	37B.P63	8226

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EXAMINER
DUDDING, ALFRED E

ART UNIT	PAPER NUMBER
2853	

DATE MAILED: 12/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/661,034

Applicant(s)

HANABUSA ET AL.

Examiner

Alfred E. Dudding

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 and 46 - 73 is/are pending in the application.
- 4a) Of the above claim(s) 29 - 45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6-9, 13-16, 20-23, 27, 28, 46-48, 51-55, 58-62, 65-69, 72 and 73 is/are rejected.
- 7) ☒ Claim(s) 3-5, 10-12, 17-19, 24-26, 49, 50, 56, 57, 63, 64, 70 and 71 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 29 - 45 in Paper No. 8 is acknowledged. The traversal is on the ground that there is no burdening of the examiner requiring extended searching of the prior art. This is not found persuasive because the search of the restricted claims is directed to class 358.

The requirement is still deemed proper and is therefore made FINAL.

2. The claims elected for examination are 1 - 28 and 46 - 73.

Specification

3. The abstract of the disclosure is objected to because the Abstract exceeds 150 words. Correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informalities: page 24, line 23, change "controller 121" to -controller 121c.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1, 2, 6 - 9, 13 - 16, 20 - 23, 27, 28, 46 - 48, 51 - 55, 58 - 62, 65- 69, 72, and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwata (EP 0 760 289 A2) in view of Murakami et al. (U.S. 2002/0109746 A1).

Iwata discloses a printer and a printing method that prints images on a recording medium fed through the printer, Figure 2, element 1, comprising a line feeding motor that actuates in predetermined stepped increments; Figure 4, element 22, a line feeding device driven by the line feeding motor for feeding the recording medium through the printer; Figure 4, element 3, a print head for printing a image on the recording medium by scanning across the recording medium and ejecting ink from nozzles, Figure 3, element 15 (printhead cartridge), element 16 (carriage), the print head having j nozzles spaced at a predetermined pixel resolution that is less than a pixel resolution printed by the printer, Figure 5C, j being an integer number (in Figure 5C, $j = 128$); and a controller for controlling the line feeding motor to actuate in stepped increments and for controlling a number of the j nozzles utilized in printing the image, Figure 4, "MPU", Figure 6 (feed gear transmission shows feed motor is incremented in steps), wherein, for each stepped increment of the line feed motor, the line feeding device feeds the recording medium $(m \times 1/n)$ pixels of the print head pixel resolution, where m and n are integer numbers and m is greater than n , and wherein, the controller controls the j nozzles that print in any one scan of the print head based on the number of increments of the line feed motor; Figure 7, $m = 3$, $n = 2$, $m/n = 1.5$ (pixel steps), printer resolution initially 360 dpi, printing output at 720 dpi, 127 nozzles of 128 (see Figure 5c) are used for the printing.

Iwata fails to teach computer executable processing steps, a computer readable medium storing the process steps, or a printer with printing resolution of 600 or 1200 dpi.

Murakami et al. (U.S. 2002/0109746 A1) discloses a printer having a host computer for processing and controlling printer operations, Figure 12, clearly seen. Murakami et al. discloses a computer readable medium for storing process steps, Figure 12, element 403. Murakami et al. discloses that the printer can have a maximum resolution of 600 dpi, paragraph [00258] or a maximum resolution of 1200 dpi, paragraph [0307].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the computer, storage medium, and resolutions of Murakami et al. in the printer of Iwata in order to achieve flexibility and high quality printing in a printer.

Allowable Subject Matter

7. Claims 3 – 5, 10 – 12, 17 – 19, 24 – 26, 49, 50, 56, 57, 63, 64, 70, and 71 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

a. A search of prior art did not cite a printer wherein the increment of the line feed motor corresponds to a line feed of 3 pixels in the pixel resolution printed by the printer as claimed in the limitations of claims 3, 10, 17, and 24.

b. A search of prior art did not cite a printer wherein j equals 304 and the controller controls the 304 nozzles so that 300 or less nozzles print in any one scan of the print head as claimed in the limitations of claims 4, 11, 18, 25, 49, 56, 63, and 70.

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c. A search of prior art did not cite a printer wherein j equals 80 and the controller controls the 80 nozzles so that 78 or less nozzles print in any one scan of the print head as claimed in the limitations of claims 5, 12, 19, 26, 50, 57, 64, and 71.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alfred Dudding whose telephone number is (703) 308-6082. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier, AU 2853, can be reached at (703) 308-4896. The fax phone number for this Group is (703) 872-9306. The examiner's fax phone number is (703) 746-4390 (unofficial correspondence only).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 308-0956.



Stephen D. Meier
Primary Examiner

Alfred Dudding

ad
12-23-03